

ABSTRACT OF THE DISCLOSURE

A method and system for the effective and consistent encapsulation of viable (i.e., living or physiologically active) biological material (preferably, pancreatic islets also known as islets of Langerhans) with a polymeric material (preferably, a biocompatible semi-permeable alginate) to form a gelled capsule, which can be transplanted into genetically dissimilar hosts. The method includes an electrostatic mixing process for producing encapsulated cell clusters with at least two polymeric coatings, and the system includes an improved spinning disk atomizer.